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**DEPARTMENT OF COMMERCE**

**National Oceanic and Atmospheric Administration**

**RIN 0648-XE783**

**Marine Mammal Stock Assessment Reports**

**AGENCY:** National Marine Fisheries Service (NMFS), National Oceanic and Atmospheric Administration (NOAA), Commerce.

**ACTION:** Notice; response to comments.

**SUMMARY:** As required by the Marine Mammal Protection Act (MMPA), NMFS has considered public comments for revisions of the 2016 marine mammal stock assessment reports (SARs). This notice announces the availability of the final 2016 SARs for the 86 stocks that were updated.

**ADDRESSES:** Electronic copies of SARs are available on the Internet as regional compilations and individual reports at the following address:

*<http://www.nmfs.noaa.gov/pr/sars/>.*

A list of references cited in this notice is available at *[www.regulations.gov](http://www.regulations.gov)* (search for docket NOAA-NMFS-2016-0101) or upon request.

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## **SUPPLEMENTARY INFORMATION:**

### **Background**

Section 117 of the MMPA (16 U.S.C. 1361 *et seq.*) requires NMFS and the U.S. Fish and Wildlife Service (FWS) to prepare stock assessments for each stock of marine mammals occurring in waters under the jurisdiction of the United States, including the Exclusive Economic Zone. These reports must contain information regarding the distribution and abundance of the stock, population growth rates and trends, estimates of annual human-caused mortality and serious injury from all sources, descriptions of the fisheries with which the stock interacts, and the status of the stock. Initial reports were first completed in 1995.

The MMPA requires NMFS and FWS to review the SARs at least annually for strategic stocks and stocks for which significant new information is available, and at least once every three years for non-strategic stocks. The term “strategic stock” means a marine mammal stock: (A) for which the level of direct human-caused mortality exceeds the potential biological removal level; (B) which, based on the best available scientific information, is declining and is likely to be listed as a threatened species under the Endangered Species Act (ESA) within the foreseeable future; or (C) which is listed as a threatened species or endangered species under the ESA. NMFS and the FWS are required to revise a SAR if the status of the stock has changed or can be more accurately determined. NMFS, in conjunction with the Alaska, Atlantic, and Pacific independent Scientific Review Groups (SRGs), reviewed the status of marine mammal stocks as required and revised reports in the Alaska, Atlantic, and Pacific regions to incorporate new information.

NMFS updated SARs for 2016, and the revised draft reports were made available for public review and comment for 90 days (81 FR 70097, October 11, 2016).

Subsequent to soliciting public comment on the draft 2016 SARs, NMFS was made aware that due to technical conversion errors, the Atlantic SARs contained incorrect information in some instances. NMFS corrected these errors and the revised draft Atlantic 2016 SARs were made available for public comment through the end of original 90-day comment period (81 FR 90782, December 15, 2016). NMFS received comments on the draft 2016 SARs and has revised the reports as necessary. This notice announces the availability of the final 2016 reports for the 86 stocks that were updated. These reports are available on NMFS' website (see **ADDRESSES**).

### **Comments and Responses**

NMFS received letters containing comments on the draft 2016 SARs from the Marine Mammal Commission; six non-governmental organizations (The Humane Society of the United States, Center for Biological Diversity, Whale and Dolphin Conservation, Maine Lobstermen's Association, the Hawaii Longline Association, and Friends of the Children's Pool); and three individuals. Responses to substantive comments are below; comments on actions not related to the SARs are not included below. Comments suggesting editorial or minor clarifying changes were incorporated in the reports, but they are not included in the summary of comments and responses. In some cases, NMFS' responses state that comments would be considered or incorporated in future revisions of the SARs rather than being incorporated into the final 2016 SARs.

#### *Comments on National Issues*

*Comment 1:* The Humane Society of the United States, Humane Society Legislative Fund, the Center for Biological Diversity, and Whale and Dolphin Conservation (Organizations) relayed that the SARs continue to have missing, outdated and/or imprecise information regarding population abundance and trends. The comment states that a recent review by the Marine Mammal Commission (Commission) found that, as of the 2013 SARs, only 56 percent of stocks nationwide had estimates of minimum abundance; this includes only 58 percent of stocks in the Atlantic, 53 percent of stocks in Alaska, and, in the Gulf of Mexico (a subset of the Atlantic SARs) only 35 percent of stocks had a timely and realistic minimum estimates of abundance. The Atlantic region also was found to have low precision in many of the estimates that were provided. The Commission report identifies a number of weaknesses in the SARs including low precision surrounding most abundance estimates, inappropriately pooling estimates for stocks that are similar in appearance but that are actually different species or stocks (e.g., beaked whales), survey design that is inappropriate for the stock's likely range, and missing trend data that could result in some stocks experiencing a significant decline without detection. Moreover, with regard to setting a Potential Biological Removal (PBR) level as required by the MMPA, the Commission analysis found that "[o]f the 248 stocks evaluated, 134 (54 percent) had PBR estimates, 51 (21 percent) had outdated PBR estimates, 59 (24 percent) had no estimates..." These PBRs are critical for determining how to appropriately manage anthropogenic impacts, and a lack of a valid PBR hampers the agency's ability to comply with MMPA mandates. Recognizing that the Commission analysis was based on SARs that were released several years ago (2013), little improvement in this situation is evident in the current draft SARs. The Organizations

recommend that NMFS recognize and fill gaps in population abundance and trends so that the SARs more accurately reflect the current status of populations.

*Response:* We acknowledge and appreciate this comment and are actively working to address these gaps to the extent that resources allow. To this end, we are continuing to partner with other Federal agencies to collaborate on our common needs to better understand the distribution, abundance, and stock structure of cetaceans and other protected species. For example, since 2010, we have been working with the Bureau of Ocean Energy Management, the U.S. Navy, and the FWS, to assess the abundance, distribution, ecology, and behavior of marine mammals, sea turtles, and seabirds in the western North Atlantic Ocean. One of the objectives of this joint venture, the Atlantic Marine Assessment Program for Protective Species (AMAPPS), is to address data gaps that are essential to improving population assessments. In 2015, we launched the joint AMAPPS II, which will continue through 2019. Modeled after the successes of AMAPPS, we are planning to launch two similar joint research programs this year for the Gulf of Mexico (GoMMAPPS) and the Pacific Ocean (PacMAPPS). These multi-year, multiple agency programs will provide data to help us meet our mandates under the MMPA.

See our responses to comments on Regional Reports below where we address issues related to specific stocks.

*Comment 2:* The Organizations note there are discrepancies in the choice of recovery factors used for distinct population segments (DPS) of humpback whales among the various regions. There should be more consistent application of recovery factors across regions for mixed or de-listed DPSs given that these newly defined populations

share many of the same certainties and uncertainties in data on abundance, trend and range. The Pacific region re-assessed the California/Oregon/Washington stock of humpback whales, retaining the recovery factor of 0.3 from the prior SAR (when these humpbacks were still ESA-listed), based on NMFS guidelines for setting PBR elements that allow flexibility in use of recovery factors for listed stocks based in confidence in the data. However, the Alaska region has apparently not been consistent in its use of recovery factors in the PBR formula. Humpbacks in the Western North Pacific retained a recovery factor of 0.1 even though some portion of the feeding stock was de-listed. However, the Central North Pacific stock of humpbacks was assigned a recovery factor of 0.3 even though the SAR for the Central North Pacific stock acknowledges that there is a “known overlap in the distribution of the Western and Central North Pacific humpback whale stocks [and] estimates for these feeding areas may include whales from the Western North Pacific stock.” The mixing of both ESA-listed and unlisted stocks in the same feeding area seems likely and in the interest of consistency, conservation, and judicious management of resources, the region should keep the more conservative recovery factor of 0.1 for both Western North Pacific and Central North Pacific stocks that vary in ESA listing status but intermix with other stocks in the Alaskan feeding grounds. The Atlantic region has used a recovery factor of 0.5 in its PBR formula, despite data uncertainties.

*Response:* As described in our *Federal Register* notice requesting comments on the Draft 2016 Marine Mammal Stock Assessment Reports (81 FR 70097, October 11, 2016), we are currently conducting a review of humpback whale stock delineations under the MMPA to determine whether any humpback whale stocks in U.S. waters should be realigned with the ESA DPSs. Until we have completed our review, we will continue to

treat the Western North Pacific, Central North Pacific, and California/Oregon/Washington stocks as depleted because they partially or fully coincide with ESA-listed DPSs. As such, we have not changed the recovery factors for these three stocks from the values reported in the 2015 SARs; any changes in stock delineation or MMPA section 117 elements (such as PBR, strategic status, or recovery factors) will be reflected in future stock assessment reports, and the Scientific Review Groups and the public will be provided opportunity to review and comment.

*Comment 3:* The Hawaii Longline Association (HLA) asserts that the SAR administrative process be improved; it is confusing, inefficient, and produces final SARs that are not based upon the best available scientific information. Because of the inefficient process used to produce SARs, the draft SARs fail to rely upon the best available data (i.e., the most current data that it is practicable to use), contrary to the MMPA. For example, the draft 2016 SAR only reports data collected through the year 2014, even though 2015 data are readily available; there is no credible justification to continue the present two-year delay in the use of information.

*Response:* As noted in previous years, the marine mammal SARs are based upon the best available scientific information, and NMFS strives to update the SARs with as timely data as possible. In order to develop annual mortality and serious injury estimates, we do our best to ensure all records are accurately accounted for in that year. In some cases, this is contingent on such things as bycatch analysis, data entry, and assessment of available data to make determinations of severity of injury, confirmation of species based on morphological and/or molecular samples collected, etc. Additionally, the SARs incorporate injury determinations that have been assessed pursuant to the NMFS 2012

Policy and Procedure for Distinguishing Serious from Non-Serious Injury of Marine Mammals (NMFS Policy Directive PD 02-038 and NMFS Instruction 02-038-01), which requires several phases of review by the SRGs. Reporting on incomplete annual mortality and serious injury estimates could result in underestimating actual levels. The MMPA requires us to report mean annual mortality and serious injury estimates, and we try to ensure that we are accounting for all available data before we summarize those data. With respect to abundance, in some cases we provide census rather than abundance estimates, and the accounting process to obtain the minimum number alive requires two years of sightings to get a stable count, after which the data are analyzed and entered into the SAR in the third year. All animals are not seen every year; waiting two years assures that greater than 90 percent of the animals still alive will be included in the count. As a result of the review and revision process, data used for these determinations typically lag two years behind the year of the SAR.

*Comment 4:* The Commission recommends that NMFS develop a strategy and plan to collaborate with other nations to improve and/or expand existing surveys and assessments for trans-boundary stocks. Priority should be given to those stocks that are endangered or threatened, hunted, or known to interact significantly with fisheries or other marine activities in international or foreign waters. The goal should be to manage human impacts on trans-boundary stocks using a potential biological removal level calculated for the entire stock, as has been suggested in the proposed revisions to the stock assessment guidelines.

*Response:* We acknowledge the Commission's comment and agree that collaboration with other countries for assessments of trans-boundary stocks is a worthy



goal. For example, for the Gulf of Mexico, we are investigating whether GoMMAPPS could encompass a Gulf-wide approach to include collaborative international surveys. For the northwestern Atlantic Ocean, we recently convened a joint Ecosystem Based Management Science Workshop with the Department of Fisheries and Oceans Canada in St. Andrews, Canada, to discuss how to develop sustained funding opportunities for collaborative research projects that advance ecosystem based management science in our transboundary waters. Some of the ongoing and potential collaborative research projects discussed include AMAPPS, aerial and ship surveys (e.g., gray seals, right whales), autonomous glider surveys, and long-term passive acoustic monitoring of whale presence.

In the North Pacific, the SPLASH (Structure of Populations, Levels of Abundance and Status of Humpbacks) surveys conducted during 2004 through 2006, represent one of the largest and most successful international collaborative studies of any whale population to date. SPLASH was designed to determine the abundance, trends, movements, and population structure of humpback whales throughout the North Pacific and to examine human impacts on this population. This study involved over 50 research groups and more than 400 researchers in 10 countries. It was supported by a number of U.S. agencies and organizations, the Department of Fisheries and Oceans Canada, and the Commission for Environmental Cooperation with additional support from a number of other organizations and governments for effort in specific regions.

The only current international assessment survey in the North Pacific is the International Whaling Commission's (IWC) Pacific Ocean Whales & Ecosystem Research (POWER) cruise, which runs annually and sequentially surveys set areas of the

North Pacific. These cruises have been run for several years across much of the North Pacific Ocean and in 2017-19 will be focused on the Bering Sea. The survey always includes at least one U.S. researcher. Reports and data are submitted annually to the IWC Scientific Committee. The survey employs line-transect methods and is designed to calculate abundance of all large whale species. Whether the estimates possess sufficient precision to be used for calculating PBR is likely to vary by species, and the huge areas being surveyed may in some cases mean low precision. The surveys also take time for photo-id and biopsy sampling, and in 2017 they will for the first time include acoustic monitoring via sonobuoys.

With the exception of the POWER cruise (which is possible largely because of funding and the provision of a vessel by the Government of Japan, together with support from the IWC) the challenge of implementing the Commission's recommendation is the considerable expense involved in conducting trans-boundary surveys. The SPLASH project on North Pacific humpback whales was very successful but involved funding by multiple nations (including the U.S.). Given the current budget environment, it is unlikely that funding would be available for an assessment survey of similar international scope.

Regarding the management of human impacts on trans-boundary stocks using a PBR level calculated for the entire stock, we note that we included clarifications in the 2016 revised Guidelines for Assessing Marine Mammal Stocks (GAMMS). For transboundary stocks, the best approach is to compare the total (U.S. and non-U.S.) M/SI to the range-wide PBR whenever possible. For non-migratory stocks where estimates of mortality or abundance from outside the U.S. Exclusive Economic Zone (EEZ) cannot be determined, PBR calculations are based on the abundance within the EEZ and compared

to mortality within the EEZ. For cases where we are able to estimate the entire population size, such as the transboundary California coastal stock of bottlenose dolphins, we prorate the PBR to account for the time that animals spend outside of U.S. waters.

*Comments on Atlantic Regional Reports*

*Comment 5:* The Organizations point out that the Commission’s review of SARs found that only approximately one third of stocks in the Gulf of Mexico have valid information on minimum population and/or have a current estimate of PBR. For the Gulf of Mexico, “of the 36 stocks without a PBR in the 2013 assessments, 33 are due to outdated survey data and 3 are due to no data.” The outdated estimates for stocks in the Gulf of Mexico are generally not just a year or two out of date, many have not been assessed since the 1990s—over two decades ago. The Deepwater Horizon oil spill disaster impacted many of these poorly assessed stocks.

For example, the Organizations note the lack of population data available for the small stocks of Gulf of Mexico Bay, Sound, and Estuary (BSE) bottlenose dolphins — many of which were adversely impacted by the oil spill from the Deepwater Horizon well. As a result of aging data and lack of survey effort, population estimates are now only available for 3 of the more than 30 bay, sound and estuarine stocks whereas there were estimates for 6 in the last SAR. The Organizations recommend that new population estimates be generated.

*Response:* We recognize that many of the Gulf of Mexico stocks do not have abundance estimates. Together with our partners at the National Center for Coastal Ocean Science and the Texas Marine Mammal Stranding Network, we are currently conducting photo-ID mark-recapture surveys to estimate abundance of common bottlenose dolphins

in St. Andrew Bay, West Bay, Galveston Bay, Sabine Lake, and Terrebonne and Timbalier bays. We anticipate completing additional estuarine photo-ID mark-recapture surveys in collaboration with partners throughout the Gulf as resources become available. During 2017 and 2018, we have planned vessel and aerial surveys under the proposed GoMMAPPS that will provide updated abundance estimates for coastal, shelf and oceanic stocks.

*Comment 6:* The Organizations comment that the Atlantic SARs and their iterative edits are often difficult to follow. In general, the SARs have become confusing, contradictory, and disorganized to an extent that it is often difficult to discern critical information, which was noted by the Atlantic SRG in its 2016 letter to NMFS. They noted no evidence in the current draft SARs for this region that any significant attempt was made to address the sub-standard content or readability of many of the SARs.

*Response:* The language contained in the Atlantic SARs was discussed in depth at the 2016 Atlantic SRG meeting. We highlighted four Atlantic SARs (coastal common bottlenose dolphin SARs and the Northern North Carolina and Southern North Carolina Estuarine System Stock SARs) for major revision. Given the comments and discussion at the 2016 meeting, we decided to retract these SARs from the 2016 cycle as it was not possible to make major revisions given the timeframe necessary for publishing the draft 2016 SARs in the *Federal Register* for public comment. Thus, these four SARs were not included in the draft 2016 SARs published in the *Federal Register* for public review. These retracted SARs were the only Atlantic SARs that were identified during the 2016 Atlantic SRG discussion for major revision. For the 2017 SAR cycle, we will restructure seven Atlantic common bottlenose dolphin SARs, including the four retracted SARs.

*Comment 7:* The Organizations comment that the Atlantic SRG was asked to review a number of SARs that do not appear in this edited draft of NMFS' SARs. For example, the Atlantic SRG was asked to review and provide comments on SARs for four bottlenose dolphin stocks that do not appear available for public review either online in the draft SARs or as part of the *Federal Register* notice. NMFS has proposed no changes to these dolphin SARs, nor is the public asked to comment on them. It is not clear why this occurred. NMFS should provide an explanation for discrepancy in the number of stocks reviewed and commented on by the Atlantic SRG as opposed to the abbreviated list of SARs provided in the documents for public review and comment.

*Response:* See response to Comment 6.

*Comment 8:* The Organizations note the initial sentence under the Gulf of Mexico BSE bottlenose dolphin report of takes in shrimp trawls states, "During 2010–2014, there were no documented mortalities or serious injuries of common bottlenose dolphins from Gulf of Mexico BSE stocks by commercial shrimp trawls; however, observer coverage of this fishery does not include BSE waters." It is misleading to say "there were no documented mortalities," as this implies that mortalities that occurred would and could have been documented by independent fishery observers when, in fact, there is no observer coverage to document any mortalities. The Organizations recommend omitting that sentence and simply stating something like: "No data are available on fishery-related mortalities for the period 2010-2014, as there was no observer coverage of the fishery in BSE waters."

*Response:* To provide clarity, we have modified the sentence to read: "During 2010–2014, there were no documented mortalities or serious injuries of common

bottlenose dolphins from Gulf of Mexico BSE stocks by commercial shrimp trawls because observer coverage of this fishery does not include BSE waters.”

*Comment 9:* The Organizations recommend that much of the information on the Gulf of Mexico BSE bottlenose dolphins in the narrative section on “Other Mortality” can be reduced to a table, particularly the listing of animals that were shot or otherwise injured by humans (i.e., providing the likely stock identity, date, location, weaponry involved). The lengthy narrative discussion that is provided in some, but not all, cases is unnecessarily descriptive.

*Response:* We shortened or removed the narrative descriptions for many of the mortalities and moved the descriptions of the at-sea observations and research takes to a table.

*Comment 10:* The Organizations note the section on Status of the Gulf of Mexico BSE bottlenose dolphin stock contains this sentence “The relatively high number of bottlenose dolphin deaths that occurred during the mortality events since 1990 suggests that some of these stocks may be stressed.” The Organizations point out that stressed is an ambiguous word that may refer to any number of things and with no information on the severity of impact. “Stress” can mean physiological stress (as in the autonomic nervous system responses and elevated cortisol levels that may be highly detrimental) but could refer to a challenge to the stock’s persistence. The Organizations suggest that NMFS consider use of a more appropriate descriptor for the importance of the information on impacts of the “high number” of deaths than is conveyed by the vague word “stressed.”

*Response:* We removed the subject sentence in the final SAR.

*Comment 11:* The Commission points out that in the North Atlantic right whale SAR, the second paragraph of the “Current and Maximum Productivity Rates” section states that right whale per-capita birth rates have been highly variable but lack a definitive trend. While that is true, the data presented in Figure 2 suggest that the pattern of variability shifted around 2000.

Between 1990 and 2000, the percapita birth rate was substantially higher than the long-term mean in three (27 percent) of those years, close to the mean in two (18 percent) of the years, and substantially lower in six (55 percent) of the years. In contrast, between 2001 and 2012, the rate was substantially higher in four (33 percent) of those years, close to the mean in 6 (50 percent) of the years, and substantially lower in just one (17 percent) of the years. In other words, the mean rate increased substantially from the first to the second period. In addition, one study has pointed to a substantial decline in the birth rate from 2010 on, which coincides with an apparent decline in the population growth rate (Kraus et al. 2016). Those declines have been coincident with sharp declines in right whale numbers at several major feeding habitats, an increase in the occurrence in severe entanglement injuries (Knowlton et al. 2012, Robbins et al. 2015), and declines in animal health-based assessments of blubber thickness, skin lesions, and other health assessment parameters (Rolland et al. 2016). The Commission recommends that NMFS undertake a thorough statistical/modeling analysis of these data to determine whether any of these apparent/possible trends are significant and what effect they are having on the recovery of the stock.

*Response:* The North Atlantic right whale population is very small with few (~100) adult females. Per capita reproduction is expected to be highly variable as a result of

many females becoming synchronized in their calving and resting periods. Estimating trends as suggested has questionable statistical validity because individual females' cycles are not independent (Rosenbaum et. al. 2002, McLaughlin et al. 1994). NMFS will further examine the potential to model the volatility of observed calf production and its effects on stock status. However, the multiple consecutive years of fewer births than deaths, as documented in the SAR, suggests a declining population.

*Comment 12:* The Commission recommends that NMFS, in consultation with independent experts familiar with assessing right whale health, re-examine information on the deaths and injuries of several North Atlantic right whales (including #3705, #3360, #3946, #2160, #1311, #3692, #2810, [#unidentified], and #4057) to determine whether they should be added to the list of M/SI cases in Table 1.

*Response:* The NMFS Northeast Fisheries Science Center staff reviewed all these cases and their determinations regarding serious injury were later reviewed by experienced staff at another Fisheries Science Center, the Greater Atlantic and Southeast Regional Offices, and the Atlantic SRG, per NMFS Policy and Procedure for Distinguishing Serious from Non-Serious Injury of Marine Mammals. NMFS staff looks for evidence of significant health decline post event. We do not currently have a method to address sublethal effects or more subtle/slow health decline. Most of the recommended cases fall into this category. In addition, several of the cases mentioned simply did not have enough information to make a determination of human interaction (see below).

Regarding whale #1311, this whale was an unrecovered carcass filmed floating off Cape Hatteras, North Carolina, by a fisherman in August 2013. Line was caught in the baleen, and it had rostrum and head wounds apparently due to line wraps. Staff



reviewing the injuries were unable to determine the extent of human interaction from footage provided. The event did not meet any of the four entanglement mortality criteria as listed in NMFS M/SI documents (Henry et al. 2016), was classified as a mortality due to unknown cause, and was not included in the SAR as a human-caused mortality.

We have no data on the unidentified whale described as being sighted in September 2014 by an aerial survey team in Cape Cod Bay, Massachusetts, and none was provided upon request from commenters. Therefore, this event was not included in Table 1. It could be a resight of an animal with an earlier injury date.

*Comment 13:* The Maine Lobsterman's Association (MLA) notes the North Atlantic right whale SAR determines the minimum population to be 440 whales, which is a census of those known to be alive. Using a census is not an adequate methodology to assess this population given that much of the population's distribution is unknown during the winter, and recent shifts in habitat use patterns have resulted in fewer right whales being detected in known habitats. Right whale patterns and behaviors will continue to change; thus, this mark-and-recapture approach to determine the minimum population is not adequate. This approach also ignores science such as Frasier (2005), which concluded based on genetic testing matched to known calves that the population of right whale males has been underestimated. The SAR offers little to explain why patterns of habitat use are shifting or adequately determine the population size.

This problem is further exacerbated by the new methodologies used to count serious injury and mortality: whales with unknown outcomes are now counted on a pro-rated basis. Given the critical status of the species, it is imperative that NMFS develop a new method of assessing the right whale population that does not rely solely on

sightings and photo-identification of these whales. The MLA recommends that NMFS convene a workshop of independent scientists to review the best available science and potential modelling approaches to assess this stock. This task should not be delegated to Science Center staff but rather should involve scientists from a variety of marine mammal, modelling, climate change and other fields to objectively recommend the best approach to assessing North American right whales.

*Response:* Currently, we use an index of abundance that is more sophisticated than a simple census in that it pools within-year sightings of individual right whales and does not rely on any particular season to represent the count of whales (so, if a whale is not seen in a particular season, it does not affect the count). Further, the method includes not just the individuals seen in the target year, but those seen before and after the target year, plus calves in the target year. Because right whale re-sighting rates have been extremely high for many years (greater than 85 percent), the method is relatively robust and produces an abundance value that is very much like a census. However, the recent decline in sighting rates has led the agency to explore different methodologies for abundance estimation, and we may move toward a mark-recapture statistical approach for future abundance characterizations. This new method will continue to rely on photo-identification data. Assessments based on individual capture histories, when properly constructed, have proven far superior both in regard to precision of abundance estimates and added demographic data than any simple abundance-based assessment procedure developed for other wildlife. This is especially true for marine mammals that range over vast areas and for which estimating density is costly. This new approach will also allow for an estimate of entanglement mortality and avoid issues with undercounting, even after

changes to the serious injury categorizations. In regard to the Frasier (2005) work, the thesis put forward a position based on incomplete genetic sampling of the observed adult male population and included only a single hypothetical breeding model. Further, we do not ignore the Frasier hypothesis, but we recognize its uncertain nature that aligns poorly with NMFS precautionary management strategies. Regarding explanations of why patterns of habitat use are shifting, this is not yet well understood, and, for this reason, it would be premature to include information on this factor in the SAR (see response to Comment 14).

With regard to the suggestions for a workshop, we are working on an approach very much like the one suggested by the commenter. Discussions will likely build on the findings from the North Atlantic right whale panel at the Commission's 2017 annual meeting and the outcomes from the Atlantic Large Whale Take Reduction Team meeting. Both meetings were held in April 2017.

*Comment 14:* The MLA notes the North Atlantic right whale SAR raises concern about a potential decline in the population beginning in 2012, the most recent year of the assessment but also notes that “productivity in North Atlantic right whales lacks a definitive trend.” The SAR dedicates the majority of its discussion on Current Population Trend to research from the early 1990s through the early 2000s, documenting a decline during that time. In discussing the recent population growth spanning more than 10 years (2000 through 2011), the SAR offers only one sentence, “However, the population continued to grow since that apparent interval of decline [ending in 2000] until the most recent year included in this analysis.” The SAR provides no discussion of conditions

during this recent 10-year period of growth in the population and does little to inform what may have driven either the former decline or recent growth.

*Response:* We recognize the lack of balance given to fluctuating period-specific growth patterns in right whale abundance. The causes of fluctuation are poorly understood. NMFS is presently engaged in analysis to examine the relative contributions of fecundity and mortality to fluctuating abundances; the outcome from our analysis will be reflected in future stock assessment reports.

*Comment 15:* The MLA notes that the data on the confirmed human-caused mortality of North Atlantic right whales continue to be difficult to interpret. Of the 24 interactions attributed to entanglement from 2010-2014, only 0.4 were confirmed to be U.S. fishing gear from a pot/trap fishery. Twenty-two of the entanglement cases have no definitive information on the fishery involved or where the gear was set. Data implicating the fishing industry at large sours fruitful discussion and makes it very difficult for the individual fisheries to find effective solutions to the entanglement problem.

*Response:* Known, observed mortalities are a (likely biased) subset of actual mortality. The SAR attempts to report these data with as much information as is available. There may be other, incidental deaths not fully known or attributable to specific areas, fisheries, or gear types. Forensic efforts are made of all recovered gear to identify specific fisheries (target species, region, nation of origin, etc.). However, insufficient data exist to assign specific levels of resolution in most cases, and we are only able to report the cause of death as fishery-related entanglement. The inability to distinguish whether impacts are due to the scale of fishing effort versus one or a few areas that have disproportionate impact and could be strategically targeted by

management actions presents significant management challenges. New gear marking requirements developed under the Atlantic Large Whale Take Reduction Plan are showing promise in improving gear attribution to specific fisheries. We welcome suggestions as to how to reduce entanglement, improve forensic analysis, or to better mark gear for source identification.

*Comment 16:* The Organizations point out that the chart showing North Atlantic right whale M/SI omits any mention of M/SI from 2015, though the agency has already acknowledged and accounted for a number of such occurrences in a separate document. Since the agency has incorporated and “coded” this more recent information from 2015 in a separate reference document, these events should be added to the SARs, which should themselves reflect the most recent information available.

*Response:* The period covered by the 2016 SAR is 2010-2014. M/SI events from 2015 will be included in the 2017 SAR. Limiting the reports to the 5-year period is not only important for consistency, but also for completeness. M/SI cases are assembled and reviewed by fall of the year following the event in order to be included in the draft SARs by the next January.

*Comment 17:* The Organizations comment that the Gulf of Maine stock humpback whale revised SAR inappropriately uses a recovery factor of 0.5 in calculations of the PBR. The NMFS GAMMS state: “The recovery factor of 0.5 for threatened or depleted stocks or stocks of unknown status was determined based on the assumption that the coefficient of variation of the mortality estimate (CV) is equal to or less than 0.3. If the CV is greater than 0.3, the recovery factor should be decreased to: 0.48 for CVs of 0.3 to 0.6; 0.45 for CVs of 0.6 to 0.8; and 0.40 for CVs greater than 0.8.” In its section on

fishery-related mortality, the Gulf of Maine humpback whale report acknowledges that entanglements and entanglement-related mortality are likely under-reported. Citing recent literature, just prior to the mortality table, the SAR states in part that “[w]hile these records are not statistically quantifiable in the same way as observer fishery records, they provide some indication of the minimum frequency of entanglements.” There is uncertainty surrounding estimates of anthropogenic mortality with no CV provided, and NMFS itself acknowledges that it is under-reported. This raises the question of the CV surrounding the mortality estimate.

*Response:* As a result of the humpback whale ESA listing rule (81 FR 62259, September 8, 2016), the Gulf of Maine stock of humpback whales is no longer considered ESA listed or depleted. Therefore, the recovery factor changed from 0.1 (the default recovery factor for stocks of endangered species) to 0.5, the default value for stocks of unknown status relative to optimum sustainable population (OSP). As a result, the GAMMS’ discussion of reducing the recovery factor based on the CV of the mortality estimate is not relevant here; in addition to there being no CVs associated with the abundance or death-by-entanglement metrics reported in the SAR, CVs are a measure of the precision of the estimate, while the likely undercount of humpback whale mortalities is an issue of bias. We are collaborating on ways to improve estimates of entanglement mortality to reduce the bias.

*Comment 18:* The Organizations note the minimum population estimate ( $N_{min}$ ) for the Gulf of Maine humpback whale stock that was used for calculating PBR was higher than the actual survey estimate. The survey estimate was said to be 335 animals with a CV of 0.42; however, that estimate of population was increased to 823 based on mark-

recapture and an outdated survey estimate from 2008 –an estimate that has no CV associated. The GAMMS state clearly that “the Nmin estimate of the stock should be considered unknown if 8 years have transpired since the last abundance survey” and the last survey was 8 years ago. If NMFS does not wish to default to “unknown” for an abundance estimate, then the SAR should use an estimate derived from a recent survey, and NMFS should devote funds to obtaining a more reliable estimate if it considers the 335 to be negatively biased. Given uncertainties in both estimates of abundance and mortality, a recovery factor of 0.5 appears inappropriate for the Gulf of Maine humpback whale stock. Clearly the stock may not require a recovery factor of 0.1 since it was delisted, but The Organizations believe it warrants using a recovery factor lower (more conservative) than 0.5.

*Response:* The 2016 SAR references the time frame 2010-2014. Hence, data collected in 2008 are not regarded as being out-dated and are included in the calculation of Nmin. NMFS recognizes that the general line transect surveys conducted in the U.S. Atlantic Exclusive Economic Zone have proven problematic in informing abundance of this stock because of poor precision. For this reason, we avoid line-transect estimates for the Gulf of Maine humpback whale stock when possible. See response to Comment 17 regarding recovery factor.

*Comment 19:* The Organizations note that if the calculations of Robbins (2011, 2012) cited in the Gulf of Maine humpback whale SAR are reasonable, then, as the SAR acknowledges, “the 3 percent mortality due to entanglement that she calculates equates to a minimum average rate of 25, which is nearly 10 times PBR.” Even if NMFS increases the PBR to 13 (as suggested in the draft), an average of 25 mortalities per year would be

almost twice the new PBR. They maintain that this stock was inappropriately changed to non-strategic given that the actual level of anthropogenic mortality is acknowledged in the SAR to be higher than the incidents detailed in the SAR tables and may be well over the PBR.

*Response:* See response to Comment 17. We agree that a simple count of the known mortalities is a poor measure and very likely a serious undercount of entanglement mortality. We are collaborating on ways to improve estimates of entanglement mortality.

*Comment 20:* The Organizations note that NMFS has compiled more recent data on mortality of Gulf of Maine humpback whales than 2014, as these data are based on individual animals sighted dead or entangled (rather than having to extrapolate from observed take rates as is done for fishery interactions with small cetaceans). Nine additional humpbacks in 2015 were documented as M/SI by NMFS that are greater than zero and should be added to the tally in the table in this SAR.

*Response:* See response to Comment 16 regarding the time period of data covered in the 2016 SAR.

*Comment 21:* The Organizations recommend that NMFS update the Gulf of Maine humpback SAR with regard to habitat use in the mid-Atlantic region. While the SAR correctly notes sightings off Delaware and Chesapeake Bays, there is no reference to the increasing sightings and reliable anecdotal reports of humpback whales off Northern New Jersey and New York.

*Response:* We have updated the Gulf of Maine humpback final SAR to include recent sightings in the New York area.



*Comment 22:* Based on NMFS' recent global status review of humpback whales, the MLA supports the use of the default recovery factor used in this draft assessment of 0.5, rather than the former 0.1, because the Gulf of Maine humpback whale stock is no longer considered endangered. The MLA suggests that NMFS broaden the assessment of humpback whales in the draft 2016 SAR to reflect the West Indies DPS, including population, productivity rates, and assessing human-caused injury and mortality. With regard to human-caused interactions, the MLA notes that they have long been concerned with the former status quo approach, which attributed all of these interactions to the Gulf of Maine stock simply because these whales could not be confirmed to another stock. The global status review provides the best available science on humpbacks. They assert that by using the West Indies DPS as the assessment unit, it will no longer be necessary to make assumptions about which smaller-scale feeding or breeding areas were used by the whale when analyzing human-caused impacts.

*Response:* NMFS is in the process of reviewing stock structure for all humpback whales in U.S. waters, following the change in ESA listing for the species. Until then, we are retaining the current stock delineation.

*Comment 23:* The Organizations comment that the strike-outs render key portions of the fin whale SAR unreadable. For example, in the section on Annual Human Caused Mortality and Serious Injury, there are a series of strike-outs that are difficult to follow, though it appears that the final tally of mortality is an average of 3.8 (modifying what was 3.55 with what looks like 32.8 but with the "2" apparently struck as well but in the same faint color). They suggest that NMFS simplify its editing and provide an easily readable document. They also note that this mortality rate exceeds the PBR of 2.5, and

there is a coded Serious Injury for 2015 in the NMFS draft appendix reviewed by the Atlantic SRG. The most up-to-date information should be used.

*Response:* In order to improve readability in future draft SARs, we will reconcile edits from multiple people into a single color. See the response to Comment 16 regarding the time period of data covered in the 2016 SAR.

*Comment 24:* The Organizations note that NMFS has compiled more recent data on mortality of minke whales than 2014. These data are based on individual animals sighted dead or entangled. Because the mortality and serious injury data in SARs for large cetaceans are based solely on what might be termed “body counts” (rather than having to extrapolate to the entire fishery from a subset of mortality obtained from federal fisheries observers) there is little justification for a multi-year delay in reporting. Six additional minke whales were accounted as dead from fishery-related injuries in 2015 (and one vessel-related fatality) and should be added to the tally in the table in this SAR in order to provide the most up-to-date information.

*Response:* See the response to Comment 16 regarding the time period of data covered in the 2016 SAR.

*Comment 25:* The Organizations comment that the current combined estimate of abundance of 11,865 for both long-finned and short-finned pilot whale species is from a 2011 aerial and ship-board survey that only covered a portion of the seasonal range of the species. The SARs state that “[b]ecause long-finned and short-finned pilot whales are difficult to distinguish at sea, sightings data are reported as *Globicephala* sp.,” however, estimates of abundance for each species were derived from this using a model based on “genetic analyses of biopsy samples” and this model is said to be “in press.” Given the

management implications of pilot whales being caught in elevated numbers in both trawl and longline gear, it is vital that there be a valid and reliable species-specific estimate for each/both species. Given that prior SARs have often stated that papers are “in press” for several annual iterations, the Organizations hope that this important model is soon published. They are concerned that the citation is to a science center document that is not peer-reviewed and the citation is tentative and incomplete. The long-finned and short-finned pilot whale SARs contain multiple editors striking and amending in a manner that challenges the readability of the SARs in key sections including the reporting of estimates of longline-related mortality.

*Response:* We conducted combined aerial and vessel surveys during summer 2011 that included mid-Atlantic waters where there is expected overlap between short-finned and long-finned pilot whales. The resulting abundance estimate of 11,865 was partitioned between the two species. We combined this estimate with the results from our summer 2011 survey of the southern Atlantic to produce the best species-specific abundance estimate of 21,515 for short-finned pilot whales over their entire range within U.S. waters. For long-finned pilot whales, the best estimate of 5,636 includes results from surveys conducted in all U.S. Atlantic waters. The Science Center document (Garrison and Rosel 2016) providing the details of the methodology for partitioning the species for both abundance estimation and bycatch estimation has gone through Science Center review and is available upon request. Starting with the 2017 SARs, we will reconcile edits from multiple people into a single color to improve readability.

*Comment 26:* The Organizations point out that large numbers of harbor seals are seen alive but with notable entanglement injuries. This should be discussed in the SAR.

They note that the federally funded and permitted stranding response organizations are required to keep records of their responses and this source should be queried. They were unable to find non-gray (or agency) literature documenting incidence but the International Fund for Animal Welfare (IFAW) has documented that between 2000-2010 “412 harbor seals were reported stranded, among them HI [human interaction] was 8 percent (n=35).” Moreover, the authors noted with regard to various seal species to which IFAW responded: “In the instances of fisheries-related HI, 67 percent had gear presently on the animal at the time of stranding. 72 percent of the entanglements were of monofilament of varying mesh size. 15 percent were multifilament netting, 9 percent were pot/trap gear, and 4 percent were random (mooring lines, dock gear). Most entangled animals were juveniles and sub-adults, which might indicate that the entanglements are lethal to animals, preventing them from reaching adult size.”

Gray seals are also being entangled and data are kept on stranding response, including either documenting or freeing animals entangled in fishing gear. IFAW documented that, between 2000-2010, “305 gray seals were reported stranded, among them 22 percent (n=68) were HI, and 75 percent of those (n=51) were fisheries related.” Moreover, the authors noted that, with regard to the various seal species to which IFAW responded: “In the instances of fisheries-related HI, 67 percent had gear presently on the animal at the time of stranding. 72 percent of the entanglements were of monofilament of varying mesh size. 15 percent were multifilament netting, 9 percent were pot/trap gear, and 4 percent were random (mooring lines, dock gear). Most entangled animals were juveniles and sub-adults, which might indicate that the entanglements are lethal to animals, preventing them from reaching adult size.” It would seem worth adding a

section to the SAR to discuss entanglements noted in living or dead-stranded animals.

*Response:* We have added the following text to the harbor seal SAR that was included in the gray seal SAR: “Analysis of bycatch rates from fisheries observer program records likely underestimates lethal (Lyle and Willcox 2008), and greatly under-represents sub-lethal fishery interactions.”

*Comment 27:* The Organizations comment that the gray seal SAR is almost impossible to read in parts and/or has text that was newly added in this draft and then struck. For example, Table 2 has counts through 2014 that are continued from the prior final SAR—though the years 2008-2014 continued to say that the “surveys took place but have not been counted” and additional text for the years 2014-2015 was added for Muskeget Island. However, all of these estimates (2008-2015), even those newly added to the draft, are in red and were struck. It makes no sense to add a new year of uncounted data that is then itself struck. It would seem more germane simply to state that data from 2008-2015 are not yet available rather than adding new text and then striking without a providing a rationale.

*Response:* The 2015 data were added mistakenly by a new author who did not understand that the time period covered by the 2016 SAR was 2010-2014, and so were removed by an editor. In the future, we will better synthesize edits to present in the track-change version.

*Comment 28:* The Organizations comment that in the gray seal SAR, the section on mortality in Canada for the years 2011-2015 was struck in its entirety (new edits and all) and moved/replaced later in the SAR under “Other Mortality” with a header reading “Canada.” However, the re-located “new” section does not provide the updated

information from the struck section and, in some cases, the information included is actually older. For example, this newer section states that human-caused mortality data in Canada are for 2010-2014 whereas the earlier, struck, section had data through 2015. These 2010-2014 data account for lower levels of mortality (136 deaths for the period 2010-2014) than was accounted in text in the section that was struck for the more current years (i.e., 353 deaths for 2011-2015). The later data, which show a notable increase in mortality, should be used.

*Response:* We will include data from 2015 in the 2017 SAR. The time period for the 2016 SAR is 2010-2014 (See response to Comment 16).

*Comment 29:* Two individual commenters expressed concern about the propagation of gray seals in Cape Cod, Massachusetts. They note that the 2016 stock assessments do not highlight increasing populations in expanded territories and lack recent pup production data.

*Response:* We appreciate the concerns expressed and are working toward publishing recent pup count and haul out survey data. We will include those count data in the 2017 SARs.

#### *Comments on Pacific Regional Reports*

*Comment 30:* The Commission appreciates NMFS' efforts to consolidate, update, and standardize the presentation of data and information in its stock assessment reports. Previously, the tables presenting data on fisheries-caused M/SI provided data for each of the last five years of available data. However, in the draft 2016 Pacific SARs only summary statistics for the five years are provided. Understanding the impact and potential mitigation of fisheries interactions on marine mammal populations, as well as

trends, requires data not only on the mean bycatch rate, but also on its year-to-year changes (e.g., Carretta and Moore, 2014). The Commission recommends that, at a minimum, NMFS continue to report the annual “Percent Observer Coverage” and “Observer Mortality and Serious Injury” data in the ‘Human-Caused Mortality and Serious Injury’ sections of its stock assessment reports.

*Response:* We recognize the importance of access to the annual observed or documented M/SI data to assess year-to-year changes; thus, we reinstated annual-level details in the final 2016 SARs for those fisheries and stocks where there were takes. However, for some species where takes in a specific fishery have perennially been zero, we think that a consolidated summary that presents a range of observer coverage for a multi-year time period may be sufficient (see Table 5 in Wade and Angliss 1997). We will continue to assess the most appropriate level of detail on observer coverage and M/SI to include in fishery tables in the SARs.

*Comment 31:* The Commission notes that the dynamics of some stocks display considerable heterogeneity in time and/or space. In those situations, a complete review of the SAR requires access to the data describing the variability over time or across the stock’s distribution. The Commission recommends that NMFS provide data, in tables and graphs, specific to different years, areas, and sub-populations, as appropriate, when a stock exhibits important variation along those dimensions. When there is uncertainty, NMFS should err on the side of providing more information.

*Response:* We appreciate this comment and recognize the possibility for variability in data relative to a marine mammal stock over time and/or space. However, we strive to strike the correct balance between providing enough detail in the SARs and

relying on citations of published papers. Where deemed necessary, we will include such information as the Commission recommends, but we are unable to do so in all cases. The issue has been discussed with the three regional SRGs over the years, and they have generally supported this approach and continually ask the agency to keep the SARs succinct.

*Comment 32:* The Organizations state that Guadalupe fur seals are of particular conservation concern because of the high rate of stranding along the U.S. West Coast in an ongoing unusual mortality event that started in January 2015. From 2015-2016, over 175 have stranded, but the number stranded may indicate that there may be a larger number of unseen mortalities. Because the SARs are a reference for making management decisions, many of which require quantitative information, the SARs should specify the number of strandings or provide a clear reference point rather than saying that stranding rates “were 8 times the historical average.” With respect to the geographic range of the stock, there is recent evidence of this threatened species expanding its breeding range into U.S. waters. The draft SAR confirms this on the initial page with a reference to NMFS’ unpublished data. NMFS has publicly identified purported breeding colonies of Guadalupe fur seals along the U.S. West Coast, so this information should be incorporated into the SARs. Providing more details about the stock’s range in the United States is especially important at this time because the SARs have not been updated since 2000.

*Response:* We have added the number of animals that stranded during the unusual mortality event to the final Guadalupe fur seal SAR. Regarding the expansion of geographic range of the stock, we have already included information in the Guadalupe fur



seal SAR reporting observations of pups born on San Miguel Island, including both published (Melin and DeLong 1999) and unpublished information.

*Comment 33:* The Organizations recommend that the Guadalupe fur seal SAR provide additional information about the type and likely sources of fishing gear that entangles Guadalupe fur seals. Additional details should be provided on the reported mortalities such as the mesh size, gear, and the location of the entanglement to help identify fisheries that may have been involved. The vast majority of fishery entanglements are said to be due to unidentified gear, which might be informed by better gear marking. The failure to better identify gear can hamper NMFS' ability to address the potential need for modification of gear or fishing method's to reduce mortalities.

*Response:* We agree that the ability to identify gear is crucial. However, records of Guadalupe fur seals that are observed entangled in fishing gear almost always lack sufficient information to identify the fishery origin of the gear. When details on the gear type are known, we provide that information in the annual human-caused M/SI reports and the respective SARs. We welcome suggestions as to how to better mark gear for source identification.

*Comment 34:* The Organizations note the in the Guadalupe fur seal draft SAR, PBR is specified but without assignment of portion of the PBR to Mexico versus the United States. For example the SAR states that the "vast majority of this PBR would apply towards incidental mortality in Mexico as most of the population occurs outside of U.S. waters." It is not clear how to analyze the significance of M/SI in the United States if the vast majority of the PBR should apply to Mexico. For example, the fourth page says that the U.S. fishery M/SI for this stock (3.2 animals per year) is less than 10 percent

of the calculated PBR and, therefore, can be considered to be insignificant and approaching zero mortality and serious injury rate. But because the SARs does not specify the portion of PBR assigned to the United States, it is impossible to independently verify this conclusion.

*Response:* We agree with the commenter that it is difficult to assess the significance of human-caused M/SI in U.S. waters because a prorated PBR is lacking. However, we are unable to prorate Guadalupe fur seal PBR between Mexico and U.S. waters due to a lack of data on: 1) the fraction of the population that utilizes U.S. waters and 2) the amount of time that animals are in U.S. waters. This transboundary stock is unique because a vast majority of the reproductive rookeries occur in Mexico and the stock that has undergone significant increases in population size, despite continued anthropogenic threats in Mexican and U.S. waters. To address the commenter's concern, we have modified the "Status of Stock" language in the final SAR to read: "The total U.S. fishery mortality and serious injury for this stock (3.2 animals per year) is less than 10 percent of the calculated PBR for the entire stock, but it is not currently possible to calculate a prorated PBR for U.S. waters with which to compare serious injury and mortality from U.S. fisheries. Therefore, it is unknown whether total U.S. fishery mortality is insignificant and approaching zero mortality and serious injury rate."

*Comment 35:* The Organizations recommend NMFS adopt a methodology to estimate cryptic mortality for pinnipeds similar to Caretta et al. 2016 that stated: "the mean recovery rate of California coastal bottlenose dolphin carcasses [is] 25 percent (95 percent CI 20 percent - 33 percent)...[therefore] human- related deaths and injuries counted from beach strandings along the outer U.S. West Coast are multiplied by a factor

of 4 to account for the non-detection of most carcasses (Carretta et al. 2016a).” This methodology would seem pertinent to apply in the Guadalupe fur seal SAR as well.

*Response:* We have developed a methodology to estimate cryptic mortality for coastal bottlenose dolphins and are working towards developing such correction factors for other taxa. The carcass recovery factor we developed for coastal bottlenose dolphins provides a best-case scenario for delphinoid carcass recovery along the U.S. west coast, and we have used this correction factor for other dolphin and porpoise stock assessment reports in the Pacific region. We will continue to work with the regional SRGs to help address the negative biases associated with carcass recovery for all taxa.

*Comment 36:* One individual points out that the California sea lion, harbor seal, and northern elephant seal reports were not revised in the draft 2016 SARs nor updated for the 2015 SARs. The commenter asserts that California is suffering from an inadvertent ecological disaster of sea lion and harbor seal overpopulation; further, the data have shown over-population for a decade or more, and OSP has been exceeded in both species at least in Southern California.

*Response:* Section 117 of the MMPA requires us to review stock assessments at least annually when significant new information on a given stock becomes available or the stock is considered “strategic.” We must review all other stocks at least once every three years. If our review indicates that the status of the stock has changed or can be more accurately determined, we must revise the SAR. The three pinniped stocks noted by the commenter are not strategic stocks, nor has an OSP determination been made for any of them.

*Comment 37:* The Organizations note that because the short-beaked common dolphin stock's range extends out to 300 nautical miles off the coast, consideration should be given to attributing capture of this species to the fisheries operating in high seas in the eastern Pacific Ocean. Specifically in 2014, one short-beaked common dolphin was injured in the Hawaii shallow-set longline fishing east of 150 degrees W longitude – the boundary for the Inter-American Tropical Tuna Commission's jurisdiction. It would seem reasonable to attribute this injury to the CA/OR/WA stock. Hawaii pelagic longline effort appears to be shifting toward the U.S. West Coast in recent years, and it seems reasonable to consider attributing some portion of this and perhaps other U.S. West Coast marine mammal stocks to this fishery. For this reason, the Organizations recommend that pelagic longlines be identified as a potential interacting fishery in the introduction of the SAR, which currently mentions only tuna purse seine and gillnet fisheries.

*Response:* We appreciate being alerted to this oversight in the draft short-beaked common dolphin SAR and have added two Hawaii shallow-set longline injury records (one in 2011, one in 2014) of short-beaked common dolphin to the final SAR.

*Comment 38:* The Organizations note that there has been no observer coverage in the California squid purse seine fishery since 2008, and request that NMFS maintain in Table 1 the record of the interaction observed in this fishery in 2005 but omitted from the short-beaked common dolphin draft SAR. Without that record, Table 1 implies that the fishery no longer interacts with short-beaked common dolphin, which seems unlikely.

*Response:* We have reinstated the portion of the fishery table in the short-beaked common dolphin final SAR that includes historic purse seine takes to better represent

fishery risks to this stock.

*Comment 39:* The Organizations suggest that the short-finned pilot whale SAR would benefit from additional clarity about the southern extent of the range of the stock. This would help guide management actions that affect short-finned pilot whales off the U.S. West Coast. The stock definition and geographic range for short-finned pilot whales was heavily edited, and, in the process, the edits struck the prior reference to the stock's range being continuous, with animals found off Baja California. This seems relevant to reinstate since, later in the SAR, NMFS retained and added information about Mexican gillnet fisheries and the lack of bycatch data. In addition, given the uncertainty surrounding the stock's range, which seems likely to extend into Mexico, the draft SARs should note the stranding deaths of 24 short-finned pilot whales in 2016 in Mexico. Given the SAR's observation of the "virtual disappearance of short-finned pilot whales from California" following the 1982-83 El Niño, improving the information about the range, stock status and population trends is critical for proper and conservative management of this stock.

*Response:* The draft SAR contains language that states the range of the CA/OR/WA short-finned pilot whale stock extends into the eastern tropical Pacific, which includes Mexican waters. This represents an improvement of our understanding of pilot whale distribution compared with previous iterations of the SAR: "Pilot whales in the California Current and eastern tropical Pacific likely represent a single population, based on a lack of differentiation in mtDNA (Van Cise et al. 2016), while animals in Hawaiian waters are characterized by unique haplotypes that are absent from eastern and southern Pacific samples, despite relatively large sample sizes from Hawaiian waters."

Information on the 27 pilot whales that stranded in the Gulf of California in 2016 is not included in the SAR because the stranding was not linked to any anthropogenic factors; the stranding does not significantly contribute to knowledge of the stock's range, and, given that the CA/OR/WA short-finned pilot whale stock represents only a small portion of a larger eastern tropical Pacific population, the stranding is unlikely to affect the long-term abundance of the CA/OR/WA stock.

*Comment 40:* The Organizations recommend that the section in the Southern Resident killer whale SAR on “habitat issues” should discuss the potential risk from oil spill and/or from commercial shipping traffic and should also include at least a brief acknowledgement of risk from increased noise and vessel traffic resulting from Naval activity in the Northwest Training and Testing program.

*Response:* We have added language addressing oil spill risks to the final Southern Resident killer whale SAR. Increased noise and vessel traffic resulting from Naval activity in the Northwest Training and Testing program is not considered to be a significant change in the habitat of this stock and thus is not included in the SAR.

*Comment 41:* The Organizations note that the Southern Resident killer whale stock is recognized to be especially reliant on Chinook salmon (which comprise up to 80 percent of their summer diet) and may be adversely affected by fishery management decisions. Contaminant levels of Persistent Organic Pesticides are high, and differ between pods but may be contributing to the precarious status of this population. For example, DDT levels are higher in K and L pods, indicating that those pods spend more time than J pod feeding on salmon from California rivers; PBDEs are higher in J pod, as they spend more time in Salish Sea waters. NMFS acknowledges the risks from these

pollutants in the draft SAR for the California stock of common bottlenose dolphins, stating “[a]lthough the effects of pollutants on cetaceans are not well understood, they may affect reproduction or make the animals more prone to other mortality factors (Britt and Howard 1983; O’Shea et al. 1999).”

*Response:* We have added language to the final Southern Resident killer whale SAR detailing some of the potential risk factors related to PCBs that are also reflected in the recovery plan for Southern Resident killer whales.

*Comment 42:* The HLA encourages NMFS to make additional improvements to the draft 2016 false killer whale SAR, by eliminating the five-year look-back period and reporting only data generated after the False Killer Whale Take Reduction Plan (FKWTRP) regulations became effective. For example, the draft 2016 SAR should report M/SI values based on 2013, 2014, and 2015 data, and the data prior to 2013 should no longer be used because it is no longer part of the best available scientific information.

*Response:* If there have been significant changes in fishery operations that are expected to affect incidental mortality rates, such as the 2013 implementation of the FKWTRP, the GAMMS (NMFS 2016) recommend using only the years since regulations were implemented. The SAR contains information preceeding and following the FKWTRP, 2008-2012 and 2013-2014 respectively, and reports M/SI for these two time periods as well as the most recent 5-year average. Although the estimated M/SI of false killer whales within the U.S. EEZ around Hawaii during 2013 and 2014 (6.2) is below the PBR (9.3), this estimate is within the range of past, pre-take reduction plan estimates, so there is not yet sufficient information to determine whether take rates in the fishery have decreased as a result of the FKWTRP. Finally, fishery-wide take rates in 2014 are among

the highest recorded, suggesting FKWTRP measures may not be effective, and the change in fishery operation may not be significant enough to warrant abandoning the five-year averaging period. For these reasons, the strategic status for this stock has been evaluated relative to the most recent five years of estimated mortality and serious injury.

*Comment 43:* The HLA asserts that the draft 2016 false killer whale SARs inappropriately relies on a “preliminary” PowerPoint presentation to report speculative conclusions. NMFS has adopted a policy that non-peer-reviewed information should not be included in the SARs. All references to information from the 2015 PowerPoint presentation (Forney 2015) are inappropriate and should be stricken from the SAR.

*Response:* The presentation provided to the False Killer Whale Take Reduction Team is the most current assessment of the effectiveness of the FKWTRP. However, we acknowledge that it has not undergone formal peer-review, and as such, references to the presentation will be removed from the SAR. Even so, we believe it is still appropriate to pool five years of data to determine the stock’s status, as described in the Status of Stock section of the Hawaii pelagic stock’s report.

*Comment 44:* The HLA notes that for a decade, NMFS has reported a M/SI rate for the deep-set fishery that exceeds PBR for the Hawaii pelagic false killer whale stock (“pelagic stock”). However, the best available information suggests that the number of false killer whales in the Hawaii EEZ has not declined during the same time that the supposedly unsustainable M/SI rate was occurring. The HLA disagrees with the M/SI levels reported in the draft SAR and with NMFS’ conclusion that the vast majority of all fishery interactions with the pelagic stock cause injuries that “will likely result in mortality.” If that were the case, then after a decade or more of allegedly unsustainable



levels of take, there would be some evidence of a declining pelagic stock abundance. No such evidence exists. The HLA recommends that the draft SAR expressly recognize this discrepancy, and NMFS should revisit the manner in which it determines M/SI for false killer whale interactions.

*Response:* This comment has been addressed previously (see 78 FR 19446, April 1, 2013, comments 45 and 51; 79 FR 49053, August 18, 2014, comment 26; 80 FR 50599, August 20, 2015, comment 34; and 81 FR June 14, 2016, comment 44). The comment contends that the stock abundance has not declined in over a decade and attributes this persistence of false killer whales despite high levels of fishery mortality to NMFS' improper assessment of the severity of injuries resulting from fisheries interactions, improper assessment of population abundance and trend, or both. Assessment of injury severity under NMFS' 2012 serious injury policy has been discussed in numerous previous comment responses and is based on the best available science on whether a cetacean is likely to survive a particular type of injury. Further study of false killer whales would certainly better inform the assigned outcomes; but, until better data become available, the standard established in the NMFS 2012 policy on distinguishing serious from non-serious injuries will stand.

Further, assessments of pelagic false killer whale population trend are inappropriate for several reasons: 1) the entire stock range is unknown, but certainly extends beyond the Hawaii EEZ, such that the available abundance estimates do not reflect true population size; 2) there have been only 2 surveys of the entire Hawaii EEZ, an insufficient number to appropriately assess trend; and 3) the available survey data were collected with different protocols for assessing false killer whale group size, a factor

that will significantly impact the resulting abundance estimates. A robust assessment of population trend will require additional data and inclusion of environmental variables that influence false killer whale distribution and the proportion of the population represented within the survey area during each survey period.

*Comment 45:* The HLA incorporates by reference its more specific comments on the draft 2014 SAR related to the 2010 Hawaiian Islands Cetacean Ecosystem and Assessment Survey (HICEAS) and the assumptions made by NMFS based upon the data from that survey. In addition, it emphasizes its repeated requests that NMFS publicly disclose information regarding the acoustic data acquired in the 2010 HICEAS survey. Substantial acoustic data was acquired during that survey, but NMFS still has not provided any meaningful analysis of that data or, for example, any basic indication of how many false killer whale vocalizations have been identified in the acoustic data. The acoustic data from the 2010 HICEAS survey contains information directly relevant to false killer whale abundance, and it must be analyzed by NMFS and reported in the false killer whale SAR, which must be based on the best available scientific information.

*Response:* This comment has been addressed previously (see 80 FR 50599, August 20, 2015, comment 35; and 81 FR June 14, 2016, comment 45). Analysis of the acoustic data is a labor intensive and time-consuming process, particularly as automated methods for detection, classification, and localization are still improving. There were many changes in array hardware during the survey, further complicating streamlined analyses of these data. Portions of the data have been analyzed to verify species identification, assess sub-group spatial arrangements, or other factors. A full-scale analysis of this dataset for abundance is therefore not appropriate at this time. However,

NMFS may consider analyzing the 2010 acoustic dataset in full or part following the planned 2017 HICEAS survey, when the most recent automated detection and classification approaches may be available.

*Comment 46:* The HLA notes that the draft SAR assigns a recovery factor of 0.5 to the pelagic stock of false killer whales, which is the value typically assigned to depleted or threatened stocks, or stocks of unknown status, with a mortality estimate CV of 0.3 or less. However, the pelagic stock is not depleted or threatened, nor is its status unknown. Since NMFS began estimating Hawaii false killer whale abundance in 2000, as more data have been obtained, more whales have been observed, and the population estimates have increased from 121 in 2000 (a recognized underestimate for all false killer whales in the EEZ) to 268 in 2005, 484 in 2007, 1,503 in 2013, and 1,540 at present. Similarly, the incidence of fishery interactions with the pelagic stock has not decreased, nor has the rate of false killer whale depredation of fishing lines decreased (if anything, it has increased). All of the available data contradict any hypothesis that false killer whales in the Hawaii EEZ are decreasing. The HLA recommends that this status be accurately reflected with a recovery factor that is greater than 0.5 (i.e., closer to 1.0 than to 0.5).

*Response:* This comment has been addressed previously (see 80 FR 50599, August 20, 2015, comment 36; and 81 FR June 14, 2016, comment 46). Reanalysis of existing datasets to derive more precise estimates does not constitute an increase in population size. The commenter is incorrect in suggesting that the historical sequence of available abundance estimates are due to natural population increases, when they are in fact due to improvements in abundance estimation methods for this species, some of which have resulted from reanalysis of the same data. There are only two EEZ-wide

estimates of abundance (484 from a 2002 survey and 1,540 from a 2010 survey). These estimates may not be directly compared due to changes in group size enumeration methods between those surveys. For this reason the current status of pelagic false killer whales is unknown. This population may be reduced given fishing pressures within and outside of the EEZ over several decades. The status of Hawaii pelagic false killer whales is considered unknown because there are no trend data available to evaluate whether the population is increasing, stable, or declining. The recovery factor for Hawaii pelagic false killer whales will remain 0.5, as indicated, for a stock with a CV for the M/SI rate estimate that is less than or equal to 0.30.

*Comment 47:* The HLA notes that, as with past draft SARs, the draft 2016 SAR attributes M/SI by the Hawaii-based deep-set longline fishery to the Main Hawaiian Island (MHI) insular false killer whale stock (“insular stock”). For at least the following two reasons, these attributions are inappropriate and contrary to the best available scientific information. First, there has never been a confirmed interaction between the deep-set fishery and an animal from the insular stock. Although there is anecdotal evidence of insular stock interactions with nearshore shortline fisheries and other small-scale fishing operations, none of these are documented or reliably reported, and none implicate the Hawaii-based longline fisheries, which have been excluded from nearshore fishing grounds for many years.

Second, as NMFS recognized in the draft 2015 SAR, the range for the insular stock is, appropriately, much smaller than was previously assumed by NMFS. When this new range is taken into account, along with the FKWTRP-based year-round closure of the area to the north of the MHI, there is only a very small area in which longline fishing

may overlap with the assumed range of the insular stock. No false killer whale interaction by the deep-set fishery has ever occurred in this area. It is therefore incorrect, and contrary to the best available information, to state that the deep-set fishery, as currently regulated, is “interacting with” the insular stock. If NMFS persists with its contention that the deep-set fishery “interacts with” the insular stock, then NMFS should, at a minimum, state in the SAR that there are no confirmed deep-set fishery interactions with the insular stock and that no deep-set fishery interactions with the insular stock have occurred in the very limited area where longline effort might overlap with the assumed range for the insular stock.

*Response:* As noted in previous years (see 80 FR 50599, August 20, 2015, comment 37; and 81 FR June 14, 2016, comment 48), the commenter is correct that using the new MHI insular false killer whale stock range and the longline exclusion area required under the FKWTRP (in effect since 2013), there is little overlap between the MHI insular stock and the longline fishery. However, the commenter is mistaken that any take by the deep-set fishery is attributed to the MHI insular stock. The table for the Hawaii longline fisheries indicates 0.0 M/SI attributed to the MHI insular stock for 2013 and 2014. This 0.0 attribution is because the overlap area is very small and because fishing effort in that region was also small. It is rare that the stock-identity of a hooked or entangled whale can be determined, and as such NMFS follows the GAMMS and apportions those false killer whale takes of unknown stock to all stocks within the fishing area. NMFS has carried out this apportionment based on the distribution of fishing effort in areas of overlap between stocks and the fishery.

*Comment 48:* The HLA states that NMFS’ assumption that the insular stock has

declined is speculative.

*Response:* This comment has been addressed previously (see 80 FR 50599, August 20, 2015, comment 39 and 81 FR June 14, 2016, comment 49). NMFS makes no assumption that MHI insular stock abundance has declined in recent years. The minimum estimate reflects the number of individuals enumerated during the stated period and may reflect not only changes in actual population abundance, but also changes in encounter rates due to survey location or animal distribution.

*Comments on Alaska Regional Reports*

*Comment 49:* Over the past several years, the Commission has repeatedly recommended that NMFS improve its monitoring and reporting of Alaskan subsistence hunting and harvest working in collaboration with co-management partners. The Commission recognizes and appreciates the related updates made by NMFS to the SARs and encourages NMFS to continue to provide updated information wherever it becomes available, even if it pertains only to a limited number of villages or subset of years. Although NMFS has stated its desire to establish a comprehensive, statewide subsistence hunting/harvest monitoring program, it has yet to achieve that goal. The Commission acknowledges the efforts of NMFS' Alaska Fisheries Science Center and Alaska Regional Office to develop a list of research/monitoring priorities, solicit additional resources, and coordinate their efforts toward establishing the hunting/harvest monitoring program. Information on subsistence hunting and harvest is becoming increasingly important in the light of the pace of change in the Arctic. Therefore, the Commission recommends that NMFS continue to pursue the funding necessary for comprehensive surveys of Alaska native subsistence use and harvest of marine mammals. The

Commission remains open to providing what support it can to NMFS' survey efforts and to helping address the lack of funding for such a program.

*Response:* We acknowledge that we have limited monitoring and reporting of subsistence harvests. We will continue to provide the best available information about subsistence harvests in the SARs and will pursue opportunities to conduct comprehensive surveys of subsistence hunting as resources allow. We greatly appreciate the Commission's support and look forward to discussing ways forward to help facilitate NMFS' efforts.

*Comment 50:* In the spring of 2012 and 2013, U.S. and Russian researchers conducted aerial abundance and distribution surveys for ice seals over the entire Bering Sea and Sea of Okhotsk. The Commission was encouraged to see preliminary analyses of a subset of these surveys included in the 2015 SARs. Nonetheless, the lack of the complete analysis of these surveys and revisions of the abundance estimates for bearded and ringed seals in this year's draft SARs is disappointing. The Commission recommends that NMFS make it a priority to complete these analyses and ensure that revised abundance estimates for bearded, ringed, and ribbon seals, based on all available data, are included in the draft 2017 SARs.

*Response:* We are continuing to analyze data from the 2012-2013 aerial surveys of ice seals in the Bering Sea and Sea of Okhotsk; as soon as the data analysis is complete and a citable publication is available, we will revise the applicable abundance estimates in the SARs. We will include an updated abundance estimate for spotted seals in the U.S. sector of the Bering Sea (from a preliminary analysis of the 2012-2013 survey data) in the draft 2017 spotted seal SAR (the only ice seal SAR to be revised in the 2017 SAR

cycle).

*Comment 51:* The Commission notes that the draft 2016 SAR for the Southeast Alaska stock of harbor porpoise includes new abundance estimates for two sub-regions based on stratified, line-transect surveys conducted from 2010 to 2012. The line-transect abundance estimates were computed with the assumption that  $g(0)$ , the probability of detection on the trackline, was 1.0, although this is almost certainly not true. As reported in the SAR, estimates of  $g(0)$  from other harbor porpoise populations vary from 0.5-0.8. Thus, the true abundance of the population is likely to be 20-50 percent greater than the estimates reported in the SAR. Nonetheless, the estimates provide a frame of reference for comparisons to harbor porpoise bycatch in the portion of the Southeast Alaska salmon drift gillnet fishery that was monitored in 2012-2013, for which the mean annual M/SI was at least double the corresponding PBR level. Further, the total M/SI, which was assumed to be a minimum as only a portion of all M/SI are typically observed, was nearly four times greater than PBR. Although a comprehensive trend analysis was not possible, the SAR reports that: "...an analysis of the line-transect vessel survey data collected throughout the inland waters of Southeast Alaska between 1991 and 2010 suggested high probabilities of a population decline ranging from 2 to 4 percent per year for the whole study area... [but] when data from 2011 and 2012 were added to this analysis, the population decline was no longer significant." Given this uncertainty and the apparent high levels of M/SI relative to PBR, the Commission recommends that NMFS conduct the necessary analyses to determine an appropriate  $g(0)$  to be used in the analysis of line-transect data for this stock, and revise the abundance estimates and PBR calculations accordingly for the draft 2017 SARs. If the reanalysis finds that M/SI still exceeds PBR,



then the Commission recommends that NMFS consider forming a take reduction team to address mitigation of bycatch of this stock in the Alaska salmon drift gillnet and related fisheries.

*Response:* We recognize the importance of determining a value for  $g(0)$  for harbor porpoise, and on a recent survey in Southeast Alaska we collected some preliminary data in a  $g(0)$  experiment. Although the sample size was small, ongoing analysis of these data will allow us to provide a preliminary value for  $g(0)$  for this species in the region. Use of existing values for  $g(0)$  is probably inappropriate given potential differences in populations, species, or study areas.

*Comment 52:* The Commission recommends that NMFS give the determination of harbor porpoise stock structure throughout the region a high priority, particularly for this stock given the potentially high level of fisheries interactions.

*Response:* We agree with the Commission that improving our understanding of harbor porpoise stock structure is a high priority. We collected data for genetics studies of harbor porpoise in the inland waters of Southeast Alaska during two vessel cruises in July and September 2016. One of the primary research priorities of these cruises was to collect environmental DNA (eDNA) from the fluke prints of harbor porpoise to inform evaluation of stock structure. We are currently analyzing the eDNA collected from the southern (Wrangell/Sumner Strait area) and northern (Glacier Bay/Icy Strait area) regions of the inland waters of Southeast Alaska.

During the cruises, we also obtained photographs of harbor porpoise and collected acoustic samples from Dall's porpoise (to compare to our existing harbor porpoise acoustic samples) for a project to determine if Dall's porpoise and harbor porpoise can be

differentiated acoustically. We anticipate that the results of these analyses will help inform whether separation of Southeast Alaska harbor porpoise into two or more stocks is appropriate.

*Comment 53:* The Organizations request that NMFS update Appendix 6, “Observer coverage in Alaska commercial fisheries,” for each of the Alaska Region SARs. The current Appendix 6 shows observer coverage only for the years 1990- 2009, which therefore omits observer coverage information for 4 out of the 5 most recent years included in the SARs. This is problematic especially because NMFS acknowledges that there is inadequate monitoring of Alaska commercial fisheries. Reporting current levels of observer coverage is imperative to understanding and improving monitoring and the interaction levels derived therefrom.

*Response:* We have updated Appendix 6 in the final 2016 Alaska SARs to include the coverage for 1990 through 2014; the 2017 Alaska SARs will include coverage for 1990 through 2015.

*Comment 54:* The Organizations comment that the limited amount of observer coverage in state-managed fisheries in Alaska creates uncertainty about the extent of M/SI, and this is a particular problem for humpback whales entangled in the Southeast Alaska salmon drift gillnets. Table 1 in the SAR for Central North Pacific humpback whales lists the fishery as “SE Alaska salmon drift gillnet (Districts 6, 7, 8)” – but this pertains to only a limited number of districts, leaving M/SI in the rest of the districts both unobserved and unestimated. NMFS acknowledges in the SAR for this stock that “[s]ince these three districts represent only a portion of the overall fishing effort in this fishery, we expect this to be a minimum estimate of mortality for the fishery.” The Organizations

recommend that NMFS expand observer coverage, since the fishery is likely to interact with humpbacks in other portions of the range.

Because of distribution of effort, it may not be possible to extrapolate the observed takes from these districts across the fishery in its entire range in southeast Alaska; however, it is clear that total M/SI is likely to be far higher than the limited data presented. The SAR lists mortality as 11 humpbacks. However, a draft report by the same author (Manly) extrapolated from this and estimated the number of mortalities for all of Southeast Alaska to be 68. Given the inadequate monitoring of the fisheries, NMFS must explain why observed M/SI were not extrapolated to the fishery in Southeast Alaska as was done by Manly in his draft and as would be consistent with fisheries listed in the annual List of Fisheries.

*Response:* We acknowledge the need for monitoring state-managed fisheries for marine mammal interactions. Unfortunately, we had to discontinue operating the Alaska Marine Mammal Observer Program for state-managed fisheries due to a lack of resources. We continue to seek opportunities to improve our understanding of the interactions between state-managed fisheries and marine mammals.

The extrapolation of humpback whale M/SI from 11 in the observed districts of the Southeast Alaska salmon drift gillnet fishery to 68 for all of Southeast Alaska was contained in a draft report but not carried over into the final report. During our review of the report, and consideration of what information to include in the SARs, we decided that extrapolating from the three observed districts of the fishery to the unobserved districts of the Southeast Alaska salmon drift gillnet fishery was unreliable given the variability in fishing effort and humpback whale distribution. Instead, the one observed interaction was

the basis for estimating that 11 M/SI occurred in the observed districts; and, since the observed districts represent only a portion of the overall fishing effort in this fishery, we expect this to be a minimum estimate of the total level of humpback whale M/SI in salmon gillnet fisheries in Southeast Alaska. This is consistent with how we handled the M/SI of harbor porpoise, which was extrapolated within the three districts but not beyond the three observed districts to the rest of the Southeast Alaska salmon drift gillnet fishery.

*Comment 55:* The Organizations note that NMFS states in the draft North Pacific sperm whale SARs that PBR is unknown for this stock (and the entire species is listed as a single endangered species under the ESA) but also concludes in the status of the stock section for this stock that total estimated annual level of human-caused M/SI (2.2 whales) “seems minimal.” Given the uncertainty surrounding the degree of depletion and recovery of the North Pacific sperm whale population, the SARs should be precautionary in the analysis of impacts of M/SI resulting from commercial fishing. The practical impact of the SARs continuing to find PBR “unknown” for this stock is that the North Pacific stock of sperm whales assessed in the Alaska SARs may be receiving less protection than other U.S. stocks of sperm whales. This appears to be the only U.S. stock of sperm whale for which the fisheries interacting with it are not listed as Category I or II; NMFS does not require MMPA section 101(a)(5)(E) authorization for fisheries interacting with the North Pacific Stock because, in this case, its PBR is said to be unknown.

*Response:* As there are no available abundance estimates for the number of sperm whales in Alaska waters, Nmin is not available for this stock and therefore, the PBR is unknown. Assessing sperm whale populations presents considerable challenges,

including the range and offshore distribution of the species, uncertainties regarding stock boundaries, the segregation by sex and maturational class that characterizes sperm whale distribution, and behavioral factors (e.g., long dive times) that make surveys difficult. Nonetheless, we plan to convene a working group to discuss the practicality of estimating sperm whale abundance and other issues surrounding assessment of this species. We have revised the text in the final 2016 sperm whale SAR to clarify that the estimate of annual fisheries-caused mortality and serious injury is a minimum estimate. We will also omit the characterization that an M/SI rate of 2.2 whales “seems minimal.” Even in the absence of a PBR, we continue to assess fishery interactions with sperm whales in Alaska, including efforts by the fishing industry to reduce interactions (e.g., the recent change to allow pot gear in the sablefish fishery to reduce depredation by sperm whales). Although we cannot conduct a quantitative tier analysis for stocks without PBRs, we can evaluate whether to classify fisheries by analogy to other similar fisheries based on various factors (50 CFR 229.2).

*Comment 56:* The Organizations suggest adding information to the Cook Inlet beluga whale SAR from a new study of spatial and temporal patterns in the calling behavior of beluga whales in Cook Inlet.

*Response:* We will review this information and consider including it in a future Cook Inlet beluga whale SAR.

*Comment 57:* The Organizations point out that the last sentence on draft page 62 of the Cook Inlet beluga whale SAR should more correctly read: “The next abundance estimate survey was conducted in June 2016 and is currently undergoing analyses.” On this same page, using the formula provided for calculating minimum abundance, it

appears that the minimum population estimate in the stock should be 287 not 280.

*Response:* We have incorporated these corrections into the final 2016 Cook Inlet beluga whale SAR.

*Comment 58:* The Organizations suggest that the Status of the Stock section of the Cook Inlet beluga whale SAR be updated to reflect that the recovery plan for the Cook Inlet beluga whales was finalized and published on January 4, 2017. Additionally, the Organizations suggest that the Habitat Concerns section be updated to reflect information that was in the draft and final recovery plan for this stock. These include a number of references.

*Response:* We will add a statement about the final Recovery Plan to the Status of Stock section of the final 2016 Cook Inlet beluga whale SAR, and we will update the information on the Recovery Plan in the Habitat Concerns section of the draft 2017 Cook Inlet beluga whale SAR.

*Comment 59:* The HLA notes that the draft 2016 SAR for the Central North Pacific humpback whale stock (“CNP Stock”) states that “until such time as the MMPA stock delineations are reviewed in light of the DPS designations, NMFS considers this stock endangered and depleted for MMPA management purposes (e.g., selection of a recovery factor, stock status).” Although the HLA appreciates that the MMPA humpback stock delineations do not align with the new humpback DPS designations, it is nevertheless inaccurate for the SAR to suggest that the entire CNP Stock is “endangered” and “depleted.” In fact, many whales within the CNP Stock’s presently delineated range likely come from DPSs that are not “endangered” or “threatened.” At a minimum, they request that the SAR for the CNP Stock include a statement that the two observed CNP

Stock interactions with the Hawaii-based longline fisheries occurred with animals from the Hawaii DPS, which is not listed as “threatened” or “endangered.”

Response: We have added the following statement to the end of the “Status of Stock” section in the final 2016 Central North Pacific humpback whale SAR:

“Humpback whale mortality and serious injury in Hawaii-based fisheries involves whales from the Hawaii DPS; this DPS is not listed as threatened or endangered under the ESA.”

Dated: June 21, 2017.

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